

Problem # 1 Answer
Determination of Net Operating Income

Potential Gross Income	\$101,250
Less: Vacancy and Collection Loss	(\$6,075)
Add: Miscellaneous Income	\$3,000
Effective Gross Income	<u>\$98,175</u>
Less: Operating Expenses	(\$30,500)
Less: Reserve For Replacements	<u>(\$5,000)</u>
Net Operating Income	<u><u>\$62,675</u></u>

Net leasable area of 4,500 Square feet times \$22.50/Square Feet	\$101,250
Vacancy loss rate of 5% plus Collection loss rate of 1% times PGI	(\$6,075)
Add miscellaneous income (given)	\$3,000
Effective Gross Income (EGI)	<u>\$98,175</u>
Less expenses (given)	(\$30,500)
Less reserves for replacements (given)	<u>(\$5,000)</u>
Net Operating Income (NOI)	<u><u>\$62,675</u></u>

Income Approach

Problem # 2 (A) Answer

Gross Rent and Gross Income Multipliers

Gross Rent Multiplier Problem

The subject property is a single family dwelling which is rented for \$475 per month. The market rent is also \$475 per month. Develop a GRM from the following data and use it to calculate a possible indication of value.

<u>Sales</u>						
	1	2	3	4	5	6
Sale Price	\$60,000	\$72,000	\$65,000	\$62,000	\$68,000	\$70,000
Monthly Rent (EGI)	\$425	\$520	\$460	\$450	\$490	\$500
GRM	141	138	141	138	139	140

GRM = Sales Price divided by the Monthly Rent (EGI)

Median is 140

Possible indication of value: Market rent of \$475 times 140 = \$66,500

Problem # 2 (B) Answer

Gross Income Multiplier Problem

The subject property produces Gross Annual Effective Gross Income of \$72,000. Analysis of rents and sales of comparable properties rendered the following. Based upon this information calculate a Gross Income Multiplier (GIM) and then calculate indication of value for subject property.

Sale	Sale Price	EGI	Gross Income Multiplier	Range
1	\$675,000	\$75,000	9.0	8.4
2	\$600,000	\$68,000	8.8	8.6
3	\$720,000	\$85,700	8.4	8.8
4	\$750,000	\$87,500	8.6	8.9
5	\$650,000	\$73,000	8.9	9.0

GIM = Sale Price divided by the median EGI

Possible indicated range of value:

Subject property EGI of \$72,000 times low range =

\$604,800

Subject property EGI of \$72,000 times high range =

\$648,000

Subject property EGI of \$72,000 times median range 8.8

\$633,600

Income Approach

Problem # 3

Belle Rive Office Building

Determine PGI, EGI, and NOI

First Floor	Area	Market	PGI
Thomas and Associates	3.750	\$20.10	\$75,375
Katz, Katz and Dogez	8.250	\$20.10	\$165,825
Kellev Engineering	5.500	\$20.10	\$110,550
Second Floor	17.500		
Second Job Agency	4.000	\$20.10	\$80,400
Paperman Publishing	9.200	\$20.10	\$184,920
Vacant	4.300	\$20.10	\$86,430
Third Floor	17.500		
Silverman & Goldman	8.000	\$20.10	\$160,800
Leland Entertainment	3.000	\$20.10	\$60,300
Media Heaven Advertising Agency	6.500	\$20.10	\$130,650
	17.500		\$1,055,250

VAC & COLL LOSS

9.4%

\$1,055,250

\$99,194.00

PGI

POTENTIAL GROSS INCOME			\$1,055,250
LESS: VACANCY LOSS AND COLLECTION LOSS			(\$99,194)
ADD: MISCELLANEOUS INCOME			\$0
EFFECTIVE GROSS INCOME			\$956,056
LESS: OPERATING EXPENSES			
MANAGEMENT FEES (10% OF EGI)			(\$95,606)
LAWN CARE			(\$2,300)
SUPPLIES/MAINTENANCE			(\$7,248)
MAINTENANCE SALARIES/BENEFITS			(\$28,340)
COMMON LIGHTING			(\$1,345)
WATER & SEWER			(\$6,573)
ELECTRICITY			(\$11,965)
GAS			(\$15,996)
LIABILITY INSURANCE			(\$7,100)
SNOW REMOVAL			(\$1,100)
CASUALTY INSURANCE 3 YR POLICY--PRO RATE			(\$282)
MEMBERSHIP IN TRADE ASSOCIATION			(\$1,500)
RESERVE FOR REPLACEMENTS			(\$22,500)
NET OPERATING INCOME			\$754,201

PGI

EGI

NOI

Vacancy Rate

4300/52500

8.2%

Collection Rate Loss

1.2%

Vacancy and Collection Rate Loss

9.4%

Practice Problem # 1 Answer
Developing NOI and Cap Rates

PGI	\$150,000
V & C Loss	-\$15,000
Misc Inc	\$0
Effective Gross Income	<u>\$135,000</u>
Operating Expense	<u>-\$25,000</u>
Net operating Income	<u><u>\$110,000</u></u>

Net operating Income	<u>\$110,000</u>
Overall Cap Rate	<u>13.8%</u>

Income Approach

Practice Problem # 2 Answer

Developing PGI, EGI, and NOI and Value of Subject

POTENTIAL GROSS INCOME	32,000	\$20	\$640,000
VACANCY & COLLECTION LOSS	\$640,000	6%	-\$38,400
MISC. INCOME	\$0		\$0
EFFECTIVE GROSS INCOME			\$601,600
OPERATING EXP AND RESERVE FOR REPLACEMENT	\$601,600	18%	-\$108,288
NET OPERATING INCOME			<u>\$493,312</u>

IF THE CAPITALIZATION RATE IS 10%

WHAT IS THE VALUE OF THIS PROPERTY

THE NET OPERATING INCOME FROM ABOVE IS

CAPITALIZATION RATE IS

VALUE

<u>\$493,312</u>
<u>10%</u>
<u>\$4,933,120</u>

Income Approach
Practice Problem # 3 Answer
Developing an Expense Ratio

Given the above information develop an expense ratio to use on our subject property.

SC	EGI	EXPENSES	RESERVES	Total Expense	Exp Ratio
Rieverton	\$469,775	\$135,330	\$15,000	\$150,330	32.0%
Eagle Ridge	\$392,440	\$117,500	\$12,000	\$129,500	33.0%
Chatham	\$518,760	\$148,000	\$18,000	\$166,000	32.0%
Hyde Park	\$318,780	\$88,020	\$10,800	\$98,820	31.0%

32.0%

Income Approach

Practice Problem # 4 (A) Answer

Gross Rent Multiplier Problem VIF Formula

	SALES					GRM Rank
	1	2	3	4	5	
Sale Price	\$45,000	\$56,000	\$48,000	\$53,500	\$58,000	106
Monthly Rent	\$425	\$520	\$450	\$490	\$525	107
GRM	106	108	107	109	110	108
						109
						110

MONTHLY EGI OF SUBJECT PROPERTY \$475

MEDIAN 108

USING THE MEDIAN GRM PROVIDE AN INDICATION OF VALUE TO THE NEAREST \$100

Indication of value \$475 Times 108 \$51,300

(ROUND TO THE NEAREST \$100)

Income Approach

Practice Problem # 4 (B) Answer

Gross Income Multiplier Problem

Sale	Sale Price	Effective Gross Income	Gross Income Multiplier
A	\$650,000	\$75,000	8.7
B	\$590,000	\$68,000	8.7
C	\$695,000	\$85,700	8.1
D	\$750,000	\$87,500	8.6
E	\$620,000	\$73,000	8.5

Ranges from 8.1 to 8.7

\$72,000	8.1	\$583,200
\$72,000	8.7	\$626,400
Median	8.6	\$619,200

ROUND TO NEAREST \$100